Kentucky Method 64-221-03
Revised 1/6/03
Supersedes 64-221-00
Dated 1/13/00

AGRICULTURAL LIMESTONE

1. SCOPE: This method outlines the procedure for testing either agricultural limestone, or 150 µm (100-) mesh ground limestone.

2. APPARATUS – MATERIALS:

   2.1. 2000 µm, (No. 10), 300 µm (No. 50) Sieves.

   2.2. Hydrochloric Acid.

   2.3. Sodium Hydroxide.

   2.4. Phenolphthalein.

3. PROCEDURE:

   3.1. Sample Preparation: The sample is usually received in a 0.95 liter (quart) can, or in a bag. If the sample is not dry, it must be dried before any tests are performed. This may be done by splitting the sample and drying in an oven at 110 °C for 1 - 1½ hours. When the sample is dry, let it cool to room temperature.

   3.2. Sieve Analysis: Perform sieve analysis in accordance with AASHTO T27 Sieve Analysis of Fine and Coarse Aggregates.

   3.3 Calcium Carbonate Equivalent: Grind sample to pass 250 µm (No. 60) sieve, and mix thoroughly. Place 1 gram ground sample in 250 ml Erlenmeyer flask. Add 50 ml of 0.5 N HC1 (standard solution), and boil gently for 5 minutes. Cool, and titrate excess acid with 0.25 N NaOH (standard solution) using phenolphthalein.

4. CALCULATIONS:

$$\frac{5(V_1N_1 - V_1N_2)}{W_1} = \%\, CaCO_3\ Equivalent$$

V_1 = Volume of HC1

V_2 = Volume of NaOH

N_1 = Normality of HC1

N_2 = Normality of NaOH

W_1 = Sample weight

5. REPORT:

5.1. % Passing 2000 µm (No. 10) Sieve, to the Whole Number [150 µm (100) mesh only]

5.2. % Passing 300 µm (No. 50) Sieve, to the Whole Number [150 µm (100) mesh only]

5.3. $CaCO_3$ Equivalent

APPROVED _____
Director
DIVISION OF MATERIALS

DATE _____1/6/03_____

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